Chapter 20
Achieving Supply Chain Management (SCM): Customer Relationship Management (CRM) Synergy Through Information and Communication Technology (ICT) Infrastructure in Knowledge Economy

Ashutosh Mohan
Banaras Hindu University (BHU), India

Shikha Lal
Banaras Hindu University (BHU), India

ABSTRACT

Information and communication technology infrastructure has changed modern business practice. The ever-changing information and communication technology infrastructure of organizations' is opening new vista, which has not only bundles of opportunities to encash but also tremendous obstacles as survival threats. The concern about organizational competitiveness and development is closely linked to notions of the information sensitive society and global knowledge based economies. The business organizations under global knowledge economy can emerge and grow rapidly by formulating and adopting the innovative business practices. Information's impact is easily seen—it substitutes for inventory, speeds product design and delivery, drives process reengineering, and acts as a coordinating mechanism, helping different members of the supply chain work together effectively. While the potential of information sharing is widely promoted, relatively few companies have fully harnessed its capability to enhance competitive performance. The chapter tries to provide insight into how information and communication technology can be leveraged for supply chain value creation and make it possible to achieve synergy with customer relationship management.

DOI: 10.4018/978-1-61520-625-4.ch020

INTRODUCTION

The third wave of industrial transformation is more precisely known as the digital age and/or knowledge economy are terms used to describe a new era of significant changes, just like the second wave of turning an agricultural society to an industrial economy. The knowledge economy is fueled by the rampant development of Information and Communication Technology (ICT) infrastructure that not only facilitates data processing and information usage but also application of acquired knowledge. The advancements of information and communication technology turn into many new developments of scientific knowledge and discoveries began to take place such as new manufacturing or distribution technology, alternative energy, fuel source and biotechnology etc. Advancement in the digital arena not only includes integration of information technology and communication technology, but also virtual reality, artificial intelligence, robotics, and organic light-emitting diode etc., just to name a few. Knowledge management is one of the major driving forces of organizational change and value creation since the early 1990. As with any evolving managerial concept, knowledge management has ineradicably and increasingly become more and more complex. There is always possible convergence of related concepts that directly or indirectly connect with knowledge management, such topics include various business processes and concepts (such as supply chain management, customer relationship management etc.), intellectual capital, organizational learning and various learning theories, intangible assets, social network, neural network, market or competitive intelligence, competitive strategy, change management, corporate culture, creativity and innovation, information technologies (such as artificial intelligence application, decision support system, and expert system), and, not to forget the most important dimension of organizational performance management. Although the knowledge economy is still in its formative years, it promises to advance human understanding and knowledge in depth and widespread. Advancement of human knowledge may lead to improved problem-solving skills, decision-making skills, analytical, conceptual and strategic thinking skills, human intelligence in terms of Intelligence Quotient (IQ), Emotional Quotient (EQ) and Spiritual Quotient (SQ), inter-personal communication skills etc. While organizations continue to upgrade from their intensive data processing operations to information-based operations to knowledge-based business operations, which clearly depicts the need to understand knowledge management. The need to integrate major functions across the entire supply chain and not just within the enterprise would also begin to surface. The major functions within the supply chain include *Supply Chain Management (SCM)*, Product Development Management (PDM), Enterprises Resource Planning (ERP), *Customer Relationship Management (CRM)* and Retail Network Management (RNM).

For an enterprise that already manages its customers as its core business, customer relationship management is its core competency, and, most likely, also its competitive advantage. Customer relationship management system was born out of necessity, i.e., from sales transactions (such as call centers) and customer complaint handling. Only when marketing and customer orientation concepts began to take hold of the organization, customer relationship management begin to emphasize customer value added and customized services and customer relationship building. There are three levels of customer relationship management that progress in sophistication with each level up. Firstly, they are transaction-based data processing customer services; secondly, informed decision based customized services, and thirdly, knowledge-based customer and value driven relationship management. In order for an enterprise to achieve the third level of customer relationship management sophistication by upgrading its core competency and competitiveness, knowledge management must be introduced into